

On some pursuit and evasion differential game problems for an infinite number of first-order differential equations.

ABSTRACT

We study pursuit and evasion differential game problems described by infinite number of first-order differential equations with function coefficients in Hilbert space l_2 . Problems involving integral, geometric, and mix constraints to the control functions of the players are considered. In each case, we give sufficient conditions for completion of pursuit and for which evasion is possible. Consequently, strategy of the pursuer and control function of the evader are constructed in an explicit form for every problem considered.

Keyword: Differential game; Control strategy; Infinite system.